

ABSTRACT

An apparatus and method for compensating for the frequency offset of a
5 received signal in a receiving apparatus of a mobile communication system. In
the present invention, a sine component is calculated by adding I and Q channel
signals resulting from downconverting a training sequence inserted between data
symbols, and a cosine component is calculated by subtracting the Q channel
signal from the I channel signal. Using the cosine and sine components at two
10 time points, tangent components for the two time points are computed and thus
first and second phase values are obtained. The frequency offset is estimated by
determining the slope of a second-order line derived from the first and second
phase values. The frequency offset of the received signal is compensated for
based on the estimated frequency offset.